

**Notice of Allowability**

Application No.

10/501,951

Applicant(s)

PHILIPSON ET AL.

Examiner

Thu Nguyen

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on April 10, 2007 and the enclosed Examiner's Amendment.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other _____   |

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr Robert A. Molan (Reg. No. 29,834) on June 29, 2007.

The application has been amended as follows:

In the specification:

Replace the abstract with the following:

### **ABSTRACT**

A control system for a powered vehicle describes a desired movement of the vehicle and communicates the movement to the vehicle's drive system. The powered vehicle comprises a chassis and at least three rolling means mounted on the chassis for engaging a surface over which the vehicle moves. The drive system comprises at least two drive units, each comprising first and second driving means, co-operatively operable to provide both propulsion and steering of the drive units. The control system comprises a computing means for calculating a desired movement of the vehicle, wherein translation of the vehicle is calculated in the form of a continuous cubic function and rotation of the vehicle is calculated in the form of a linear function. The control system also comprises a communicating means for transmitting the desired movement to the at least two drive units to move the vehicle in accordance with the desired movement.

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In the claim:

Replace claims 9-10 and 16 with the following:

9. (Currently Amended) A method of controlling, with the aid of a control system, a movement of a powered vehicle comprising a chassis, a drive system, at least three rolling means mounted on said chassis for engagement with a surface over which said vehicle is to move, wherein said drive system comprises at least two drive units, each comprising a first driving means, and a second driving means, co-operatively operable to provide both propulsion and steering of said drive unit, wherein said method comprises the steps of:

- with a computing means comprised in said control system, calculating a desired movement of said vehicle;
- calculating a translation of said vehicle in the form of a continuous cubic function; and
- calculating a rotation of said vehicle in the form of a linear function; and
- with a communicating means comprised in said control system, transmitting said desired movement to said at least one drive unit to move said vehicle in accordance with said desired movement.

10. (Currently Amended) A method of controlling, with the aid of a control system, a movement of a powered vehicle according to Claim 9, wherein said method also comprises the steps of:

- with a navigation system comprised in said control system, determining an actual position of said vehicle;
- transmitting said actual position to said computing means; and
- correcting errors between said actual position and a desired position according to said desired movement of said vehicle.

16. (Currently Amended) At least one computer program product (102<sub>1</sub>, ..., 102<sub>n</sub>) directly loadable into the internal memory of at least one digital computer (100<sub>1</sub>, ..., 100<sub>n</sub>), comprising software code portions for performing, when said at least one product (102<sub>1</sub>, ..., 102<sub>n</sub>) is/are run on said at least one computer (100<sub>1</sub>, ..., 100<sub>n</sub>), a method of controlling, with the aid of a control system, a movement of a powered vehicle comprising a chassis, a drive system, at least three rolling means mounted on said chassis for engagement with a surface over which said vehicle is to move, wherein said drive system comprises at least two drive units, each comprising a first driving means, and a second driving means, co-operatively operable to provide both propulsion and steering of said drive unit, wherein said method comprises the steps of:

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- with a computing means comprised in said control system, calculating a desired movement of said vehicle;
- calculating a translation of said vehicle in the form of a continuous cubic function; and
- calculating a rotation of said vehicle in the form of a linear function; and
- with a communicating means comprised in said control system, transmitting said desired movement to said at least one drive unit to move said vehicle in accordance with said desired movement.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 7, 2007

  
**THUY V. NGUYEN**  
**PRIMARY EXAMINER**